1731

Patent
Attorney's Docket No. 016499-883

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
V.S. Meenakshi SUNDARAM et al.	)	Group Art Unit: 1731
	)	
Application No.: 09/852,786	)	Examiner: Marc S. Alvo
	)	
Filed: May 11, 2001	)	Confirmation No.: 5196
	)	
For: OZONE BLEACHING OF LOW CONSISTENCY PULP USING HIGH PARTIAL PRESSURE OZONE	)	

AMENDMENT/REPLY TRANSMITTAL LETTER

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed is a reply for the above-identified patent application.

[X] A Petition for Extension of Time is also enclosed.

[ ] A Terminal Disclaimer and a check for [ ] $55.00 (248) [ ] $110.00 (148) to cover the requisite Government fee are also enclosed.

[ ] Also enclosed is _____.

[ ] Small entity status is hereby claimed.

[ ] Applicant(s) request continued examination under 37 C.F.R. § 1.114 and enclose the [ ] $370.00 (279) [ ] $740.00 (179) fee due under 37 C.F.R. § 1.17(e).

[ ] Applicant(s) previously submitted ___, on ___, for which continued examination is requested.

[ ] Applicant(s) request suspension of action by the Office until at least _, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.

[ ] A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (146/246) is also enclosed.

[X] No additional claim fee is required.

[ ] An additional claim fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	NO. OF CLAIMS	HIGHEST NO. OF CLAIMS PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	ADDT'L FEE
Total Claims		MINUS =		× $18.00 (103) =	
Independent Claims		MINUS =		× $84.00 (102) =	
If Amendment adds multiple dependent claims, add $280.00 (104)					
Total Amendment Fee					
If small entity status is claimed, subtract 50% of Total Amendment Fee					
TOTAL ADDITIONAL FEE DUE FOR THIS AMENDMENT					

[ ] A claim fee in the amount of $_____ is enclosed.

[ ] Charge $_____ to Deposit Account No. 02-4800.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:_____
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Date: May 28, 2002

Patent
Attorney's Docket No. 016499-883

#3/BM 6-4-02

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V.S. Meenakshi SUNDARAM et al.	)	Group Art Unit: 1731
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RESPONSE

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In complete response to the outstanding Official Action issued on November 28, 2001, Applicants offer the following remarks.

In the Official Action, the Examiner initially rejects claims 1, 2, 5-10, 13-21, 23 and 24 under 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. § 103(a), over Canadian Patent Application 2,078,276. For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

The Canadian patent application does disclose the use of a high shear mixer. However, the mixer is described as being used only in conjunction with a medium consistency pulp. This is consistent with the prior art, in which different mixers are understood to be used with different consistencies of pulp. High shear mixers are generally used with medium consistency pulp. Static or peg mixers are generally used with

low consistency pulp, and tumbler or fluidized beds are generally used with high consistency pulp. Thus, the description in the Canadian patent of a high shear mixer is used solely in conjunction with that of medium consistency pulp, which is consistent with the understanding of the prior art.

Accordingly, Applicants submit that the Canadian patent does not suggest to the skilled artisan the use of a high shear mixer in conjunction with the bleaching of low consistency pulp under high partial pressure in conjunction with the present invention. One of ordinary skill in the art reading the Canadian patent, would understand to use conventional equipment in conjunction with low consistency pulp, in which case a static or peg mixer would generally be used. The skilled artisan would understand that the description of the high shear mixer, which is only in conjunction with medium consistency pulp as an illustration, is exactly that, an illustration consistent with the understanding of mixing medium consistency pulp.

It is suggested by the Examiner, however, that since the high shear mixer is the only mixer described in the Canadian patent, then the skilled artisan would necessarily use a high shear mixer in conjunction with other consistency pulps besides medium consistency pulps. However, the skilled artisan would clearly not be so directed as a high shear mixer cannot be used in conjunction with a high consistency pulp. Clearly, the Canadian patent simply directs one to the use of conventional equipment, which the skilled artisan would understand. Thus, the skilled artisan would note that the high shear mixer disclosed in the Canadian patent was simply for use with medium consistency pulp, and that when other consistencies are to be used, those typically used in the prior art should be employed.

Accordingly, it is respectfully submitted that the Canadian patent in no manner anticipates or renders obvious Applicants' claimed invention. Favorable reconsideration and withdrawal of the Examiner's rejection of claims 1, 2, 5-10, 13-21, 23 and 24 as being anticipated or rendered obvious by Canadian Patent Application 2,078,276 are therefore respectfully requested.

The Examiner also rejects claims 1, 2, 5-10, 13-21, 23 and 24 as being obvious over the Canadian patent application with or without Sixta et al. For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

The Examiner applies Sixta et al. in that it notes that the use of a high shear mixer can be employed. Furthermore, Sixta et al. discusses mixing pulp in a consistency of from 3 to 20%, which mixing occurs prior to sending the pulp to a reaction zone in order to bleach the pulp. In all of the Examples of Sixta et al., the use of the high shear mixer is again used in conjunction with medium consistency pulp. There are no examples of the consistency being 5% or less. In other words, Sixta et al. is directed to high shear mixing of medium consistency pulp with ozone.

Thus, it is submitted that Sixta et al. cannot cure the deficiencies of the Canadian patent application.

Furthermore, even if one were to combine Sixta et al. with the Canadian patent application, the claimed process would not be suggested to the skilled artisan. In the claimed process for bleaching pulp with ozone, the ozone is reacted with the pulp under high shear mixing conditions. This reaction is continued under high shear mixing conditions until the pulp is bleached. Directly contrary to this, Sixta et al. passes the pulp

onto a retention tube in order for the ozone to bleach the pulp. This is directly contrary to the claimed invention, which does not need to utilize a retention tube as the reaction occurs under high shear mixing conditions, or in other words, in the high shear mixer itself. It has been surprisingly found by Applicants, that when one creates a partial pressure of ozone greater than 1.4 psi, and conducts the reaction under high shear mixing conditions, the ozone reacts quickly and efficiently with low consistency pulp, which heretofore the prior art has failed to appreciate.

Therefore, it is believed that one of ordinary skill in the art reading the Canadian patent application together with Sixta et al. would not be directed to Applicants claimed invention. The skilled artisan would still not be directed to reacting ozone with low consistency pulp under high shear mixing conditions and under a partial pressure greater than 1.4 psi. It would also not be obvious to alter the prior art to create such a reaction because the requisite motivation does not exist, in that the prior art is devoid of any appreciation or understanding that such a reaction would quickly and efficiently occur. This is directly contrary to the teachings of the prior art such as Sixta et al., which requires passing the pulp onto a retention tube for the ozone to bleach the pulp. Accordingly, favorable reconsideration and withdrawal of the Examiner's rejection of record of claims 1, 2, 5-10, 13-21, 23 and 24 under 35 U.S.C. § 103 as being obvious over the Canadian patent application with or without Sixta et al. are respectfully requested.

The Examiner also rejects claims 3, 4 and 22 under 35 U.S.C. § 103 as being unpatentable over the Canadian patent application, with or without Sixta et al., taken

further in view of Hornsey et al. or WO 93/15264. For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

For the reasons discussed above, the Canadian patent application, taken with or without Sixta et al., is devoid of any disclosure or suggestion of Applicants claimed invention. It is submitted that the Hornsey et al. reference, or WO 93/15264, also fails to cure the deficiencies of the Canadian patent application, taken with or without Sixta et al. Accordingly, for the reasons discussed above, it is submitted that the combination of references set forth by the Examiner also fails to disclose or suggest, and hence render obvious, claims 3, 4 and 22 under 35 U.S.C. § 103.

Accordingly, favorable reconsideration and withdrawal of the rejection of claims 3, 4 and 22 under 35 U.S.C. § 103 are respectfully requested.

The Examiner also rejects claims 11 and 12 under 35 U.S.C. § 103 as being unpatentable over the Canadian patent application 2,078,276 with or without Sixta et al., taken further in view of Cirucci et al. or Uchida et al. For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

For the reasons discussed above, both the Canadian patent application, taken with or without Sixta et al., is devoid of any disclosure or suggestion of Applicants' claimed invention. It is submitted that both Cirucci et al. and Uchida et al. also fail to cure the deficiencies of the Canadian patent application, taken with or without Sixta et al.

Accordingly, for the reasons discussed above, it is submitted that the combination of references set forth by the Examiner also fails to disclose or suggest, and hence render obvious, claims 11 and 12 under 35 U.S.C. § 103.

Lastly, claims 1-10 and 13-24 stand provisionally rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-11 and 13-21 of copending Application No. 09/559,993. Claims 11 and 12 are also provisionally rejection under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-11 and 13-21 of copending Application No. 09/559,993 in view of Cirucci et al. or Uchida et al. The foregoing rejections are provisional obviousness type double patenting rejections because the alleged conflicting claims have not in fact been patented. Applicants submit that the claims rejected are not obvious in light of claims 1-11 and 13-21 of the copending Application No. 09/559,993. However, in order to expedite prosecution, once allowable subject matter is indicated to exist in the subject application, a terminal disclaimer will be filed, should such a terminal disclaimer be necessary.

Accordingly, Applicants hereby defer any further action with regard to the provisional obviousness type double patenting rejections until allowed subject matter exists, at which time the rejection can be better evaluated. Applicants, however, are agreeable to expedite prosecution should a terminal disclaimer be necessary.

Lastly, the Examiner is requested by the Applicants to contact the undersigned local counsel once the subject response has been reviewed in order to conduct a personal interview. It is believed that such a personal interview may very well expedite the prosecution of the subject application. The Examiner is therefore requested to contact the undersigned at 703-838-6622, at the Examiner's convenience.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: _____
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Date: May 28, 2002